MAUL FOSTER ALONGI
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June 10, 2016
Project No. 8128.02.01

Dana Bayuk
Oregon Department of Environmental Quality
Northwest Region
700 NE Multnomah Street, Suite 600
Portland, Oregon 97232

Re: Monthly Progress Report—May 2016
Siltronic Corporation
7200 NW Front Avenue, Portland, OR
ECSI No. 183

Dear Dana:

Maul Foster & Alongi, Inc. (MFA) has prepared this progress report in accordance with the requirements of the *Order Requiring Remedial Investigation and Source Control Measures* (the Order), Oregon Department of Environmental Quality (DEQ) No. VC-NWR-03-16, entered into with Siltronic Corporation (Siltronic) on February 9, 2004. The reporting period for this progress report is May 1, 2016, through May 31, 2016. The next progress report is due Monday, July 11, 2016 (since July 10, 2016 falls on a Sunday).

The report organization follows that of previous progress reports.

ACTIONS TAKEN UNDER THE ORDER SINCE THE PREVIOUS PROGRESS REPORT

Communications and Submittals

NW Natural and Siltronic exchanged data sets each firm has in their possession. Anchor QEA provided data on behalf of NW Natural on Mary 6 and MFA provided data on behalf of Siltronic on May 12. Both parties are providing ongoing clarifications to support the process of uploading data to their respective databases.

On May 6, MFA submitted to Dana Bayuk, DEQ, a letter regarding Siltronic Comments on *Contaminated Materials Management Plan, Northwest Natural Gasco Site (February 23, 2016)*. General comments regarding the plan are discussed in the letter and specific comments are included in a memorandum attached to the letter.

On May 31, MFA submitted to Keith Johnson and Dana Bayuk, DEQ, the Source Area Chlorinated Volatile Organic Compound (CVOC) Reduction Progress Report. The progress report summarized CVOC data and presented conclusions related to the ongoing performance of enhanced in-situ bioremediation, including mass removal estimates and performance toward achieving the remedial action objectives.

Fieldwork

Portland Gas & Coke (PG&C) waste dense nonaqueous phase liquid (DNAPL) has been observed in ten existing, and three decommissioned Siltronic WS-series monitoring wells since 2004. Monthly measurements of PG&C waste DNAPL thickness in WS-21-131, WS-31-106, WS-33-81 were conducted on May 16 by MFA. Maximum observed PG&C waste DNAPL thicknesses and the dates observed for these wells are shown on the attached Figure.

On May 16, 2016, approximately 4 gallons of a PG&C waste DNAPL/groundwater mixture was removed from WS-31-106, and approximately 5 gallons of a PG&C waste DNAPL/groundwater mixture was removed from WS-33-81. The attached figure includes charts showing PG&C waste DNAPL thickness over time for both of these wells. In April, 2016, prior to removal, PG&C waste DNAPL thicknesses of 13.43 and 14.91 were measured in WS-31-106 and WS-33-81, respectively.

During May, Siltronic provided access to representatives of NW Natural for work associated with the NW Natural source control measure (SCM), as necessary.

ACTIONS TO BE TAKEN IN THE NEXT TWO MONTHS

June field activities will include performance monitoring, bimonthly combustible-gas measurements, bimonthly soil vapor sampling, and bimonthly PG&C waste DNAPL thickness measurements and sampling at selected wells.

July field activities will include quarterly water level measurements; monthly measurement of PG&C waste DNAPL in WS-31-106 and WS-33-81; a monthly check for PG&C waste DNAPL in WS-21-131 (due to the significant increase of naphthalene in groundwater at this location reported in the May 10, 2016 Monthly Progress Report); and data collection from transducers installed in selected monitoring wells.

TEST RESULTS AND DATA RECEIVED SINCE THE PREVIOUS PROGRESS REPORT

The attached MS Excel data file contains performance and quarterly monitoring data and soil vapor data received through the end of the reporting period.

PROBLEMS EXPERIENCED SINCE THE PREVIOUS PROGRESS REPORT

Revised reports were issued from Specialty Analytical for PG&C waste DNAPL data from February 2016 and April 2016. Revised data are included in the attached MS Excel data file.

PG&C waste DNAPL continues to accumulate in wells at Siltronic. The observations regarding DNAPL thickness and occurrence demonstrate that mobile DNAPL is present throughout and likely beyond the former PG&C waste lagoon footprint. This situation is considered to be a problem due to the increased level of effort that a larger expanse of PG&C waste DNAPL would require, but also because the observations confirm that the

nature and extent of PG&C waste DNAPL is not well understood. MFA will therefore propose an increase in the PG&C waste DNAPL monitoring program in an upcoming letter to DEQ.

Please call either of us at (971) 544-2139 if you have questions or comments.

Sincerely,

Maul Foster & Alongi, Inc.

Madi Novak
Principal Scientist

James G.D. Peale, RG
Principal Hydrogeologist

Attachment: MS Excel file (as attachment to the e-mail and on CD with the hard copy)
Figure

cc (e-mail only): Myron Burr, Siltronic
Ilene M. Munk, Foley & Mansfield
Chris Reive, Jordan Ramis
Keith Johnson, DEQ
Henning Larsen, DEQ
Matt McClincy, DEQ
Kristine Koch, USEPA
Eva DeMaria, USEPA
Sean Sheldrake, USEPA
Rene Fuentes, USEPA
Lance Peterson, CDM
Bob Wyatt, NW Natural
Patty Dost, Pearl Legal Group LLC
John Edwards, Anchor QEA LLC
Carl Stivers, Anchor QEA LLC
Ben Hung, Anchor QEA LLC
Rob Ede, Hahn and Associates, Inc.

DNAPL Thickness Measurements in Siltronic Wells

Siltronic Corporation
Portland, Oregon

WS-11-125
0.49
8/21/2014

WS-14-161
0.8
8/21/2014

PW-2L

PW-2U

PW-1U

PW-1L

PW-1Ub

WS-14-125
2.8
1/26/2015

WS-23-116
4.05
9/2/2009

WS-39-101
1.1
12/1/2015

WS-33-81
25.03
6/6/2014

WS-40-36
0.1
5/19/2011

WS-15-140
1.2
12/1/2015

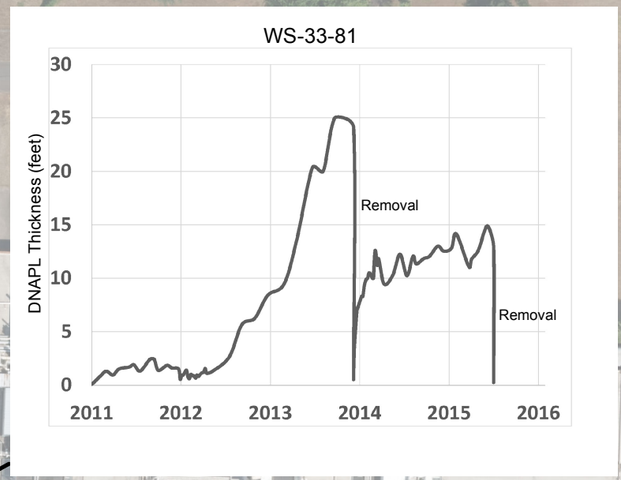
WS-31-106
26.19
8/3/2015

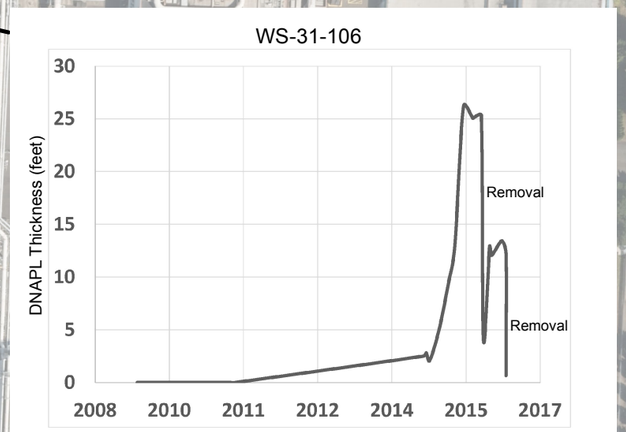
WS-15-85
11.56
2/19/2007

WS-42-36
Trace
9/13/2012

WS-43-36
10.34
5/19/2011

WS-10-27
0.45
9/2/2009





Legend

- NW Natural Pumping Well
- Decommisioned Monitoring Well
- Monitoring Well
- Approximate Extent of the Former Pacific Gas & Coke Waste Lagoon (Based on a 1956 Aerial Photo)
- Site Boundary

WS-22-81 (Well ID)
25.03 (Max Observed DNAPL Thickness (feet))
6/6/2014 (Date of Max Observed DNAPL Thickness)

Notes:
1. Portland Gas & Coke Waste DNAPL thickness data can be found in the MS Excel data file attached to the Monthly Progress Report.
2. PW-1Ub location is approximate.

0 50 100
Feet

Source: Aerial photograph (2014) and site boundary (tax lot, 2015) obtained from Metro.

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